Initiatives to Support Planetary Health

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The healthcare sector is a large contributor to greenhouse gas emissions

1. Karliner, J., et al., Healthcare Without Harm, 2019 / 2. European Commission, 2023 / 3. European Commission, 2023 / 4. McAlister et al. Lancet Reg Health West Pac. 2022, Thiel et al, Radiology, 2024

Radiology requires a lot of resources today

>50%

of radiology's carbon footprint is energy use[1]

>90%

of globally used materials go to waste each year[2]

1. Thiel et al, Radiology, 2024 / 2. Circularity Gap Report, 2022

We have health gaps to close

2/3

of the world's population lacks access to basic medical imaging technology[1]

1. WHO, 2019

Sustainable radiology is required for imaging at global scale

Large carbon footprint

- High greenhouse gas emissions
- Intense energy use
- Dependence on scarce materials

Sustainable radiology

Climate-resilient, low-carbon, circular, accessible and equitable

Large health gaps

- Persistent health inequities
- Gaps in access to imaging
- Need for climate adaptations

Proposed focus: Introducing a Global Radiology Sustainability Registry

Radiology Sustainability Registry
Engaging an ecosystem

1	2	3
Efficient use of energy and renewables	**Efficient use and re-use of materials**	**Optimized care pathways and workflows**
Global energy use registry for monitoring and continuous improvement Focus: MR and CT, incl. AI and data storage	**Circularity framework** for education and adoption of good practices	**Health equity research and collaborations** for creating the evidence and insights for gaps to close at scale

Principles must include patient safety and quality

1 Energy use registry
Inclusive and applicable

Introduce a global framework for measuring

- Granular, to be inclusive of technology platforms and diverse radiology settings

Ensure applicability

- Formats that can inform product development, procurement decisions, clinical and operational workflows

Link to patient quality

- Aligning to cost and patient outcomes will ensure adoption

Building from available good practices

American College of Radiology™

Dose Index Registry
Benchmark Your Exams

Improve safety and deliver high-quality radiologic care to your patients.

COCIR
Advancing Healthcare

Advancing energy efficiency

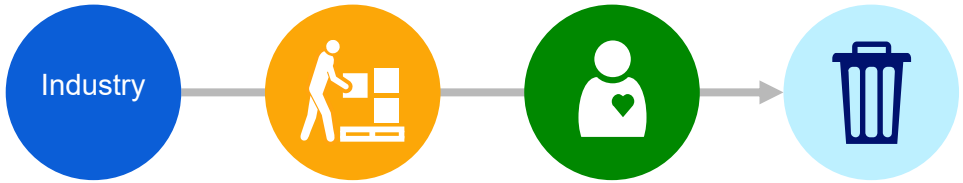
A collaboration between Radiology societies and Industry

2 Circularity framework

Different mindset and immediate benefits

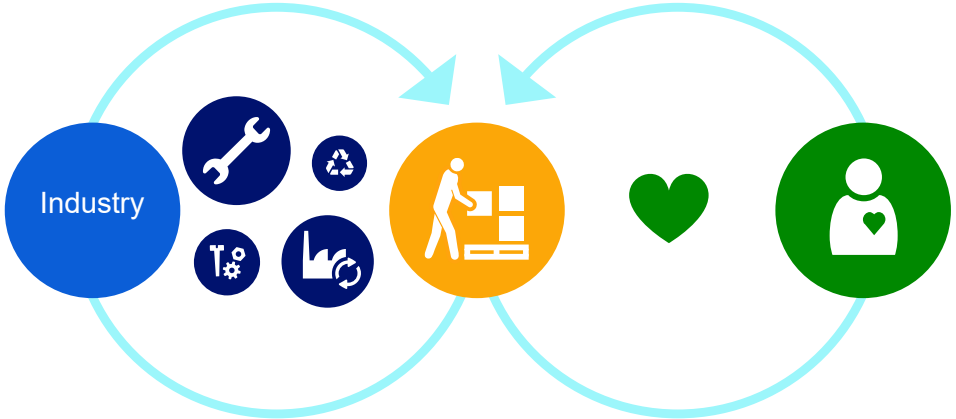
From **linear**

Take, make, waste



To **circular**

Use less, use longer, use again



Circularity can drive a lower material footprint per patient, creating the opportunity to reduce costs and avoidable waste

3

Health equity research and collaborations

Ensuring impact and long-term growth

- Build awareness about large health gaps in urban and resourced areas
- Understand the challenging health gaps in rural, remote and under-resourced areas
- Educate and collaborate, with focus on outcomes

Philips' example

New York State is partnering with Roswell Park Comprehensive Cancer Center and Philips to bring life-saving mobile lung cancer screenings to high-need communities

Public, private and non-for-profit sector collaborations are important

Panel discussion

Global Radiology Sustainability Registry

- Governance
- Metrics and methodology
- How to include non-energy sustainability concerns (e.g. contrast media)

How to link to the **energy registry efforts** with **clinical outcomes**, including **healthcare access and equity gaps**

Practical next steps

Panel lead:

- Thomas Grist: Professor Department of Radiology at the University of Wisconsin in Madison, WI- President Elect of IS3R
- Roy Jakobs – CEO of Philips

Panel Members:

- Adrian Brady: Clinical Professor of Radiology, University College Cork, Ireland. Former President of the ESR (2022-2023)
- Kofoworola Soyebi: Professor of radiology at the University of Lagos in Nigeria
- Mark Ferreira: Group Chief Medical Officer Alliance Medical Group
- Fabio Tedoldi: Head of Global Research & Development at Bracco Imaging
- Abraham Voorhees: Sr. Director of Academic Alliances – United Imaging

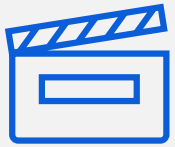
Consensus

- **Establish a Radiology Sustainability Registry**
- **Add other measures** as consumable consumption, including disposables/ contrast media use
- Establish registry as a **starting point** and stimulation to define best practices
- Long term: Make energy efficiency and carbon footprint a **visible industry differentiator** in Radiology
- **Keep it simple** to get broad buy in, try to establish energy consumption checklists

Open Points

- **What do we exactly measure**? Who defines the limits or standards
- **Who owns/ organizes** the potential registry? Consortium? Honest broker?
- Measuring on institutional, departmental scanner, scan of even sequence **level**?
- Focus on **MRI savings** as key energy use contributor?
- **Is Radiology (CT/MRI) maybe more energy efficient than other diagnostic pathways**?

Actions



- Connect with **COCIR, ACR** and other stakeholders to establish best registry methodology and potential partnership
- Decide on **ownership and management** of registry
- Establish feasibility of **measuring energy consumption footprints** by scanner, e.g, resting versus making

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